AMENDMENTS TO THE CLAIMS

Please add claim 39 as follows:

1. – 37.   (Canceled).

38.   (Previously Presented)   A computer system, comprising:

a local area network (LAN);

a plurality of computers without on-board user interface controllers, each of the computers comprising at least one central processing unit (CPU) and a LAN interface, the LAN interface being coupled to communicate over the LAN;

a console comprising a user input device and a user output device, said console being coupled to communicate over the LAN such that the console conveys an input received via the user input device over the LAN to each of the computers and to receive an output generated by each of the computers over the LAN for display using the user output device; and

an input/output (I/O) device, coupled to the LAN,

wherein the plurality of computers and the console are arranged to communicate over the LAN by transmitting Layer 2 data frames,

wherein the plurality of computers and the console are arranged to convey the input and the output by tunneling over Layer 2 on the LAN,

wherein the plurality of computers and the console are arranged to encapsulate the input and output in Internet Protocol (IP) packets for transmission over the LAN,

wherein the plurality of computers and the console are arranged to encapsulate the input and output using an application-layer protocol,

wherein the plurality of computers are arranged to transmit I/O commands over the LAN to the I/O device and comprise no on-board I/O device controllers,

wherein each of the computers further comprises an emulation processor, said emulation processor coupled to trap the I/O commands from the at least one CPU while emulating the I/O device, and to encapsulate the I/O commands in data frames for transmission over the LAN to the I/O device such that the I/O device is caused to fulfill the commands,

wherein the emulation processor is arranged to encapsulate the I/O commands in Ethernet frames,

wherein the emulation processor is arranged to encapsulate the I/O commands in Internet Protocol (IP) packets, and

wherein the emulation processor is arranged to encapsulate the I/O commands using an application-layer protocol.

39. (New) A computer system, comprising:

a local area network (LAN);

a plurality of peripheral devices having I/O controllers, the peripheral devices being connected to the LAN;

a plurality of computers, each of the computers comprising:

at least one central processing unit (CPU);

a main memory;

a system controller, comprising:

an internal bus;

a memory controller that connects the main memory to the internal bus;

at least one CPU interface port that connects the at least one CPU with the internal bus; and

a plurality of peripheral interface ports connected to the internal bus;

a plurality of LAN interfaces, comprising:

a fast Ethernet interface that connects one of the peripheral interface ports of the system controller to the LAN; and

an emulation processor that connects an other one of the peripheral interface ports of the system controller to the LAN, the emulation processor comprising:

input/output (I/O) trap logic that connects to the system controller via the other one of the peripheral interface ports of the system controller, intercepts outputs sent from the at least one CPU to the peripheral devices, traps the intercepted outputs, emulates behavior of the I/O controllers of the peripheral devices such that the at least one CPU and the system controller are not aware that I/O functions are being performed remotely, receives de-encapsulated inputs, and passes the de-encapsulated inputs to the at least one CPU via the system controller;

a service processor that receives the trapped outputs from the I/O trap logic, encapsulates the trapped outputs in transmission control protocol/internet protocol (TCP/IP) packets for transmission to appropriate ones of the peripheral devices via the LAN, establishes TCP/IP connections with I/O controllers of the appropriate ones of the peripheral devices, receives encapsulated inputs in TCP/IP packets over TCP/IP connections sent from the peripheral devices via the LAN, de-encapsulates the encapsulated inputs, and conveys the de-encapsulated inputs to the I/O trap logic; and

an emulation Ethernet interface through which the service processor transmits the outputs to and receives the inputs from the LAN; and

a non-volatile memory that holds basic input/output system (BIOS) commands used by each of the computers during an initial stage of boot-up of the computers, the non-volatile memory being connected to the service processor and to the system controller via the emulation processor; and

a console for sending inputs to and receiving outputs from the computers via the LAN, the console comprising:

a keyboard and a mouse for sending inputs; and

a video display and an audio output for receiving outputs,

wherein the plurality of computers has no local storage, no I/O interfaces, and no I/O controllers other than the LAN interfaces.